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(54) Title: A METHOD OF STORING AND RETRIEVING PERSONAL CODES			
(57) Abstract			
<p>A method of storing and retrieving personal codes, such as door codes, codes relating to automatic cash dispensers/automatic teller machines, bank account numbers, etc. The invention is characterised by entering and storing one or more personal codes in the database (2) of a central computer (1) together with a unique code belonging to a specific person; causing one or more personal codes to be retrieved from the database (2) by causing the unique code belonging to said specific person to be entered into said computer (1), wherewith the computer is caused to open the database (2) with respect to the personal codes belonging to said specific person; and therewith causing the computer (1) to send one or more requested codes.</p>			
<pre> graph TD 1[1] --> 2[2] 1 --> 3[3] 1 --> 4[4] 2 --> 5[5] 2 --> 6[6] 2 --> 7((7)) 7 --> 1 8[8] --> 1 </pre>			

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A METHOD OF STORING AND RETRIEVING PERSONAL CODES

The present invention relates to a method of storing and retrieving personal codes, such as door codes, automatic teller codes, bank account numbers, etc..

A serious problem in modern-day society is that a large number of people must be able to remember a large number of codes in order to be able to use a large number of different services, such as cash card and switch card services, automatic teller services, etc.. It is also necessary to be able to memorise other codes, such as door opening codes, computer passwords and so on. Many people also require access to bank account numbers, cash card numbers, insurance numbers, etc., in order to be able to block an account or to carry out different transactions.

The large number of codes and numbers that must be memorised by an individual may often lead to the person concerned recording the codes and numbers in a manner that provides easy access to such data when the data shall be used. However, the level of security with respect to said individual, or person, is greatly reduced when the codes and numbers are recorded, e.g., on a piece of paper kept in a wallet or diary, since misuse of a switch card or cash withdrawal card or the like will be relatively easy if a wallet or a handbag is stolen, for instance.

This problem is resolved by the present invention.

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The present invention thus relates to a method of storing and retrieving personal codes, such as door codes, cash card codes, bank account numbers, and so on, and is characterised by using a central computer with an associated database in

which one or more personal codes can be inserted and stored together with a unique code belonging to a specific person, by retrieving one or more personal codes from the database by entering the unique code of said specific person into said computer, wherewith the computer is caused to open the database with respect to the personal codes belonging to said specific person, and causing the computer to transfer one or more requested codes.

10 The invention will now be described in more detail partly with reference to an exemplifying embodiment of the invention shown in the accompanying drawing, in which Figure 1 is a block schematic.

15 The present invention is not restricted to the storage and retrieval of personal codes, such as door codes, automatic teller or cashpoint codes, bank account numbers, etc., but can be applied in respect of all manner of sensitive information. For instance, the data concerned may relate to 20 telephone numbers, dates at which different events take place, etc.

25 There is used in accordance with the invention a central computer 1 and associated database 2 in which one or more personal codes are entered and stored together with a code which is unique to a specific person.

30 In the following description of the invention, there is given, by way of example, the storage of four personal codes, namely an automatic cash dispenser or teller code, a door code, a bank account number and a car registration number.

The codes can be entered into the database 2 via the computer 1, in different ways. A first way is via a PC 2, in which the

person concerned connects the PC to the computer 1 and transfers thereto information which is stored in the computer memory 2. A second way is one where the person concerned fills in a form 4 and sends the form to the database operator. The operator then enters the information shown on the form 4. A third way is to insert information by means of an SMS-message via a mobile telephone 5, by connecting the mobile telephone to the computer 1 via a telephone network.

10 Preferably, there is opened in the database 2 of the operator a mailbox which is personal to the person concerned. For instance, the address of the mailbox in the database may be the identification number of said person or some corresponding person specific number. The mailbox is, in fact, a data file. In establishing a mailbox, i.e. subsequent to a person signing a subscription for an existing service, the computer is caused to generate a personal identification number, a PIN code or the like, which is sent to the person concerned in a manner corresponding to the manner in which 20 PIN codes are generated in respect of switch cards, cash cards and the like. The PIN code is stored in the database 2 and coupled to the personal identification number. It will preferably not be possible to extract the PIN code from the system without first going through special procedures.

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For example, data is entered into the database in the following way:

30 The person concerned connects his/her mobile telephone to the operator of the database 2. The person then enters a number of data items, where each item relates to a code. Personal number, item and code are suitably entered in sequence and the input transaction terminated with a character input, such as a # sign on the telephone. The next data item is then

entered in the same way, and so on. The items can be likened to positions for so-called card numbers on a telephone.

When acting in the aforescribed manner, the following 5 exemplifying information will be stored in the database, i.e. personal number, data item and code together with any text associated with the code in sequence:

600101-0034	1	5334 (AUTOMATIC TELLER MACHINE)
10 600101-0034	2	9556 (DOOR)
600101-0034	2	1111 34 165 65 (BANK)
600101-0034	4	MER 777 (CAR)

As before mentioned, the information is stored together with 15 the PIN-code.

In accordance with the invention, one or more personal codes is/are retrieved from the database, by causing the unique code of the specific person concerned to be entered into the 20 computer, wherewith the computer is caused to open the database with regard to the personal codes belonging to said specific person, and the computer therewith caused to transmit one or more requested codes.

25 When the person fetches information relating to a code, he/she connects his/her mobile telephone for instance to the computer 1, via a telephone network, and then enters his/her personal identification number followed by the PIN-code. The computer checks that the personal number belongs together 30 with the entered PIN code. When the personal number and the PIN code are found to belong together, the computer opens the mailbox belonging to said person in the database.

There are a number of conceivable ways in which the person concerned could retrieve the code requested. One method is for the computer to inform the person that access to the mailbox has been granted, for instance by a voice message or 5 by a telephone display message, whereafter the person is asked to enter the number of the data item under which the code is stored. For instance, the person may wish to know the automatic teller code. The person will then press digit 1 on the telephone, followed for instance by the character * on the telephone. The computer therewith reads data record number 1 in the mailbox having number 600101-0034 and sends 10 the information under this entry to the telephone, i.e. "5334", either in the form of a voice message or by printing 5334 on the telephone display.

15

It will be obvious that the degree and type of interactivity between the person and the computer may be varied greatly.

Instead of the person being asked to enter the number of the 20 data item under which the code is stored, the person can scan or scroll between different items, by pressing down keys on his/her telephone, i.e. in the same way as it is possible to skim through different card numbers on a mobile telephone and have these numbers shown on the display. In this regard, it 25 is appropriate for the computer to send certain text, which discloses the code concerned, to the telephone, said text being shown on the telephone display.

When the person has received his/her personal code, he/she 30 will switch-off the telephone and therewith release the connection, therewith making it necessary for the person to reopen his/her mailbox by entering his/her personal number and PIN code.

It will be understood that the above exemplified procedure carried out with a mobile telephone can also be carried out with a computer and its computer screen.

5 According to one highly preferred embodiment, there is entered into the database 2 person specific data which is solely in the form of said personal number or corresponding information. The PIN code is thus not entered in this case, but is generated by the database.

10

In this regard, it is preferred that the PIN code cannot be read from the system without following special routines, as before mentioned. This means that no one is able to read both personal number and PIN code from the database in order to open the mailbox of a given person without being authorised to do so, and therewith obtain access to the personal codes.

15 In a further embodiment of the invention, there is used a second computer 6 and associated database 7 in which person specific data, such as name, address and personal number is stored, although not the entire person specific code and at least not the secret part of the person specific code, wherewith said second database 7 is separate from the first-mentioned computer 1 and associated database 2.

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20 In this embodiment of the invention, the second computer 6 and associated database 7 are used to keep a register of those who subscribe to existing services and to bill the subscribers by writing out invoices on a writer 8 and dispatching the invoices. The second computer 6 is also adapted to send intermittently to the first computer records that include the current subscribers that can thus utilise the service provided by the first computer 1 and its associated database 2.

In this embodiment information concerning the name, address, etc., of the subscriber is stored in a database 7, while information concerning the subscriber's person specific code 5 is stored in the first database 2. This makes unlawful entry still more difficult to achieve.

The first computer 1 and its database 2 will preferably be managed by a well-established security company, whereas the 10 second computer 6 and its database 7 can be managed by an administrative company without the same high security requirement.

Each of the two aforesaid companies may have a respective 15 secret key which must be used together in the first computer 1 in order to obtain access thereto, such as to enable a person who has forgotten his/her PIN code or who finds it necessary for other reasons to go into the first database 2 and therewith obtain his/her personal number and associated 20 PIN code to do so.

In one particular embodiment, the mailbox is coupled to a certain mobile telephone subscription such that the mobile telephone number will be included as part of the personal 25 code. In this embodiment, the mobile telephone is coupled to the first-mentioned computer 1, whereafter the person concerned enters his/her unique code. The computer 1 is herewith caused to sense the calling telephone number and compare this number with the unique code belonging to said 30 specific person so as to verify access to the stored codes of the person concerned. This means that the personal codes can only be reached via a certain so called SIM card or the like mounted in a mobile telephone.

Although the invention has been described above with reference to a number of exemplifying embodiments thereof it will be understood that modifications and variations can be made. For instance, the way in which information is fed into and out of the database 2 can be varied to suit different, desired procedures. The method in which data is stored in the database can also be varied. The term "personal code" also includes numbers, and text parts other than codes in the true meaning of the word. For instance, important data or important addresses, etc., can be entered in the form of a personal code in the present meaning.

The present invention shall not therefore be considered to be restricted to the aforescribed embodiments thereof, since variations can be made within the scope of the following Claims.

CLAIMS

1. A method of storing and retrieving personal codes, such as door codes, codes relating to automatic cash dispensers/automatic teller machines, bank account numbers, etc., characterised by entering and storing one or more personal codes in the database (2) of a central computer (1) together with a unique code belonging to a specific person; causing one or more personal codes to be retrieved from the database (2) by causing the unique code belonging to said specific person to be entered into said computer (1), wherewith the computer is caused to open the database (2) with respect to the personal codes belonging to said specific person; and therewith causing the computer (1) to send one or more requested codes.
2. A method according to Claim 1, characterised in that the unique code includes an open part, such as the personal number of the person, and a secret part, such as a PIN code.
3. A method according to Claim 1 or 2, characterised by causing person specific data to be entered into said database (2) solely in the form of said personal number or the like.
4. A method according to Claim 2 or 3, characterised by causing person specific data, such as name, address and personal number, but not the secret code, to be stored in the database (7) of a second computer (6), said second database (7) being separate from the first computer (1) and its associated database (2).
5. A method according to Claim 1, 2, 3 or 4, characterised by causing a mobile telephone (5) to be coupled to said first mentioned computer (1); and by causing the computer (1) to

sense a calling telephone number and to compare this number with the unique code belonging to said specific person, in order to verify right of access to the stored codes belonging to the person concerned.

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6. A method according to Claim 1, 2, 3, 4 or 5, characterised by causing each personal code to be stored as a data item.

